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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/429,920 | 10/29/1999 | ATSUSHI WATANABE | 392.1666/JDH | 6526 |

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STAAS & HALSEY LLP
700 11TH STREET, NW
SUITE 500
WASHINGTON, DC 20001

EXAMINER

LU, TOM Y

ART UNIT

PAPER NUMBER

2621

DATE MAILED: 07/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

| | | |
|-----------------|-----------------|--|
| Application No. | Applicant(s) | |
| 09/429,920 | WATANABE ET AL. | |
| Examiner | Art Unit | |
| Tom Y Lu | 2621 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on _____.
2a) This action is FINAL. 2b) This action is non-final.
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-7 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
5) Claim(s) ____ is/are allowed.
6) Claim(s) 1-7 is/are rejected.
7) Claim(s) ____ is/are objected to.
8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
10) The drawing(s) filed on 29 October 1999 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
11) The proposed drawing correction filed on ____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) The translation of the foreign language provisional application has been received.
15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413) Paper No(s). _____.
2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) Notice of Informal Patent Application (PTO-152)
3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. 6) Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to because copy marks are not accepted, and lines, numbers & letters are not uniformly thick and well defined, clean, durable, and black in figures 1-14. Numbers, letters and reference characters must be at least .32 cm (1/8 inch) in height in figures 1-4. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 1-7 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. (The so-called “unit for converting image data from the camera, the image data from the camera stored in the memory, or the intermediate image data into a gray scale or color scale” in claims 1, 2 and 4 has no clear support in the specification. The specification at page 15, lines 1-3 describes storing images from a camera in a memory, but nowhere in there a description of converting the data “into gray scale or color scale”. Claim 3 and 5-7 variously depend from inadequately described independent claims.)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kosaka (U.S. Patent No. 5,467,003) in view of Takaoka (U.S. Patent No. 6,167,328). As applied to claim 2, Kosaka discloses an apparatus comprising: a fetching unit (the CCD camera mentioned at column 10, line 20 together with its associated image capture ability), a memory (the frame memory 16 mentioned at column 10, line 28) which stores the image data from the camera), a unit for converting the image data from the camera, the image data from the camera stored in the memory, or the intermediate image data into a gray scale or a color scale (the sensor interface 15 mentioned at column 10, line 27 which converts the images data into a “thin and thick signal by a gray scale”), a teaching unit 19 in Kosaka comprises a display unit (LCD) and a unit for manipulating image processing (with reference to column 11, lines 17-39 of Kosaka, it is clear that the image processing in being manipulated as follow: the “current path” of the tool tips end points, figures 1 and 2, are compared to the taught path to determine whether they coincide, and that coincidence determination carried out by the image processor 17. note that the instruction panel 19 allows the preparation, off-line of the teaching program which corresponds to the “taught path”. So, the instruction panel manipulates the image processing by way of the teaching programs). Kosaka does not disclose the teaching pendant as a portable unit. Takaoka discloses the pendant can be a personal digital assistant (PDA), which is widely understood as a portable

unit, or a portable personal computer. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to make a teaching pendant to control a robotic unit in connection with an image processor. One of ordinary skill in the art would have been motivated to do this because a portable pendant can increase the mobility of the operators around the robot, also allows operators to carry stored data from one place to another without an additional unit of data transfer (Takoaka: column 9, lines 16-19, column 10, lines 33-35, column 15, lines 5-7, and column 15, lines 34-36).

Referring to Claim 1, this claim and Claim 2 recite different preambles. Where Claim 1 calls for the image processing apparatus being built in a robot controller, Claim 2 has the apparatus “independent of the robot controller”. No patentable weight is accorded this distinction because it is not recited in the body of the claim.

Referring to Claims 3 and 5, Kosaka discloses liquid crystal display, and coinciding geometric graphics on the image in accordance with the operation procedure of image processing and specifying an image processing with respect to the image (Kosaka: column 6, lines 38-51, and column 15, lines 43-45).

Referring to Claim 4, it is noted that Claim 4 merely adds units for generating or editing a robot program and for operating the robot. Kosaka discloses the additional units, a unit for generating or editing a robot program (column 6, lines 49-67), a teaching control panel 19 equipped with a LCD display, and a robot axis control unit (column 10, lines 5-7).

Referring to Claim 6, Kosaka does not disclose a part of the operation unit of the teaching pendant can be configured as a touch panel. Takaoka discloses a teaching pendant can function as a touch panel (column 9, lines 11-15). At the time the invention was made, it would have

obvious to a person of ordinary skill in the art to include the functionality of touch panel on a teaching pendant. One of ordinary skill in the art would have been motivated to do this because it can increase the size of the screen display and eliminate the actual keys.

Referring to Claim 7, Kosaka discloses incorporating an instruction to process an image into a program of a robot by generating a control output to the robot (column 15, lines 3-7, and column 16, lines 32-32).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wang U.S. Patent No. 4,812,614 discloses Machine vision seam tracking method and apparatus for welding robots.

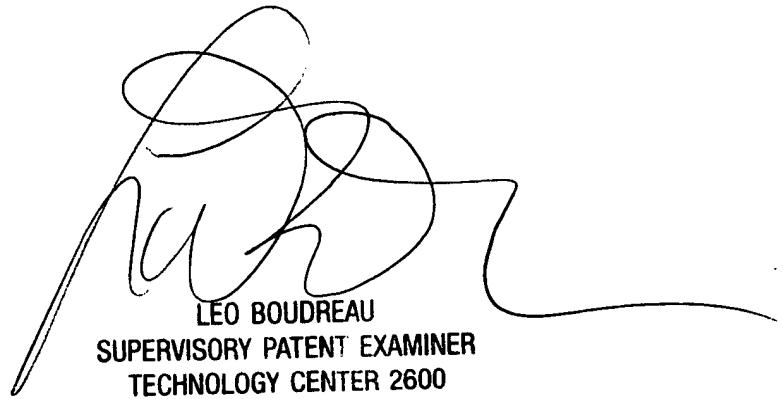
Tanabe U.S. Patent No. 5,705,906 discloses Robot teaching pendant.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom Y Lu whose telephone number is (703) 305-4057. The examiner can normally be reached on 8:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo H Boudreau can be reached on (703) 305-4706. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-5397 for regular communications and (703) 305-5397 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Tom Y. Lu
July 12, 2002



LEO BOUDREAU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600